



# Sree Narayana College Kollam



Department of Zoology

Certificate Course in  
Beekeeping (2018-2019)

Duration : 30 hours, Seats available: 30  
Course Co-Ordinator: Dr B T Sulekha  
Contact: 9495079217

# Department of Zoology

## CERTIFICATE COURSE IN

### BEEKEEPING

#### OBJECTIVES OF THE COURSE

- Impart education about modern beekeeping and build human resource in the beekeeping sector.
- Diversification of apiculture to increase income of the farmers.
- To develop strategies for management of bee colonies round the year for income generation.
- To give a better knowledge to the community about various techniques of Bee keeping and honey processing and its marketing to make them self-sustainable.
- To formulate guidelines for an appropriate technology development in honey production, utilization and preparation of a honey flora of the region.

#### RELEVANCE AND OUTCOME OF THE COURSE

- Maintain ecological balance in nature by way of domestication of honey bee.
- Develop entrepreneurial skills in beekeeping.
- Build human resource in the beekeeping sector.
- Generate employment opportunities in Apiculture to the unemployed youth and women for rural development.
- Undertake research and development [R&D] in Apiculture.
- Encourage the new generation to maintain their security and stability.
- Help to conserve the natural resources

#### OUTLINE OF SYLLABUS OF THE COURSE

(TOTAL -30 hours, 15-hour theory and 15-hour practical)

#### THEORY-(15 hours)

Unit 1. Introduction to Beekeeping –Scope, Importance

(1 Hr)



- Bee pollen and uses.
- Bee venom: composition and medical uses

### **PRACTICAL- (15 hours)**

1. Study of the morphology of Honeybees and Identification of different species and classes of Honey bees
2. Study of different stages in life cycle of Honey bees.
3. Study of the behavior of Honeybees
4. Bee keeping unit - Handling of frames with colonies
5. Introduction of parts of Bee box - ISI 'A' type 'B' type & Tools used in Beekeeping
6. Colony inspection, maintenance - writing up of inspection report
7. Methods of Multiplication of Bee Colonies



*Turha Alharajil*  
Principal  
Sree Narayana College  
Kollam



**BOARD OF STUDIES MEMBERS (2018-2019)**

**DEPARTMENT OF ZOOLOGY  
SREE NARAYANA COLLEGE, KOLLAM**

**CERTIFICATE COURSE IN BEEKEEPING**


Course Co-ordinator: Dr B T Sulekha, Assistant Professor, Department of Zoology, S. N. College, Kollam

**BOARD OF STUDIES FOR CERTIFICATE COURSE IN BEEKEEPING**

**Members:**

- Dr Sainudeen Sahib, Associate Professor, Department of Zoology, S. N. College, Kollam  
Dr B Hari, Assistant Professor, Department of Zoology, S. N. College, Kollam  
Dr S Sheeba, Assistant Professor, Department of Zoology, S. N. College, Kollam  
Dr S Jisha, Assistant Professor, Department of Zoology, S. N. College, Kollam



  
**DR. SULEKHA B.T**  
Associate Professor & Head  
P.G. & Research Dept. of Zoology  
S.N. College, Kollam-691001

**Sree Narayana College Kollam**

**Department of Zoology**

**Certificate Course in Beekeeping 2018-2019**

**Time table**

<b>Dr B T Sulekha</b>	<b>Day</b>	<b>Time</b>	<b>Theory/lab</b>
	Monday	3.15-4.45	Theory
	Tuesday	3.15-4.45	Lab
	Wednesday	3.15-4.45	Theory
	Thursday	3.15-4.45	lab
	Friday	3.15-4.45	Theory




  
**Dr. SULEKHA B.T**  
Associate Professor & Head  
P.G. & Research Dept. of Zoology  
S.N. College, Kollam-691001

**Sree Narayana College Kollam**  
**Department of Zoology**  
**Certificate Course in Beekeeping 2018-2019**

**List of teachers who are handling classes for the certificate course**

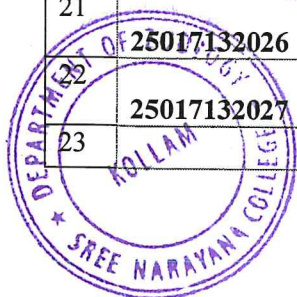
1. Dr B T Sulekha (Assistant Professor, Department of Zoology, Sree Narayana College, Kollam)



  
**DR. SULEKHA B.T**  
Associate Professor & Head  
P.G.& Research Dept.of Zoology  
S.N.College, Kollam-691001

**Sree Narayana College Kollam**  
**Certificate Course in Beekeeping 2018-2019**  
**Student List**


Sl No	Candidate Code	Name of the student	Name of the Department
1	25017132002	AHALYA U V	Zoology
2	25017132003	AISWARYA BABULAL	Zoology
3	25017132004	AKHILA VINOD	Zoology
4	25017132005	ANGITH S DEV	Zoology
5	25017132006	ANUSREE A	Zoology
6	25017132007	APSARA CHANDRAN	Zoology
7	25017132008	ARCHANA R NATH	Zoology
8	25017132010	ARYA S	Zoology
9	25017132011	ASHTAMY S LAL	Zoology
10	25017132012	ASWATHY R	Zoology
11	25017132013	ATHIRA SURESH	Zoology
12	25017132017	MEKHA S B	Zoology
13	25017132018	MINNU ASHOK	Zoology
14	25017132019	NOURIN K	Zoology
15	25017132020	PREM KRISHNA M	Zoology
16	25017132021	PRIYA S	Zoology
17	25017132022	RAHUL SAJEEV	Zoology
18	25017132023	SABARI BABU	Zoology
19	25017132024	SANDRA S	Zoology
20	25017132025	SHAHANA B	Zoology
21	25017132026	SREEHARI S	Zoology
22	25017132027	SRUTHI G	Zoology
23			Zoology



**Sree Narayana College Kollam**  
**Certificate Course in Beekeeping 2018-2019**  
**Student List**

	25017132028	UMAKRISHNA	
24	25017132029	ADARSH R KRISHNAN	Zoology
25	25017132030	AGRIMA S KURUP	Zoology
26	25017132031	AKASH S JEEVAN	Zoology
27	25017132032	AKSHAY T R	Zoology
28	25017132041	DEVA PRIYA S	Zoology
29	25017132042	DEVI ULLAS	Zoology
30	25017132043	JISHNU G	Zoology



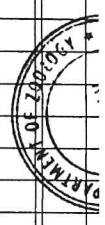
  
**Dr. SULEKHA B.T**  
Associate Professor & Head  
P.G. & Research Dept. of Zoology  
S.N. College, Kollam-691001



Sl. No	Name of student	Date		3/10		4/10		5/10		6/10		7/10		8/10		9/10		10/10		11/10		12/10		13/10		
		Hour	Hour																							
1.	Adalya UV																									
2.	Aiswarya Babul																									
3.	Akhila Vinod																									
4.	Angitha S. Dev.																									
5.	Anvesha A.																									
6.	Anvaya Chandan																									
7.	Ashana R. Nath																									
8.	Aysha S.																									
9.	Ashtamy S. Lal.																									
10.	Aswathy R.																									
11.	Ashira Suresh																									
12.	Mekha S.B.																									
13.	Manu Ashok																									
14.	Nourin K																									
15.	Prem Kaisha M.																									
16.	Prisha S.																									
17.	Rahul Vijay																									
18.	Sabari Baby																									
19.	Sasha S.																									
20.	Shahana B.																									
21.	Sreehari S.																									
22.	Sruithi G.																									
23.	Umateisha																									
24.	Adarsh R. Kaishan																									
25.	Arjuna S. Kumar																									
26.	Ashish S. Jeewan																									
27.	Akshay T. R.																									
28.	Deva Priya S.																									
29.	Devi Ulas																									
30.	Tighra G.																									

No. of Hours Attended	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10	12/10	13/10	14/10	15/10	16/10	17/10	18/10	19/10	20/10	21/10	22/10	23/10	24/10	25/10	26/10	27/10	28/10	29/10	30/10
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	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Signature of Teacher  
 Signature of HOD



DR. B. I. SUBBHA  
 (Teacher in Charge)

**SREE NARAYANA COLLEGE, KOLLAM**

**Department of Zoology**

**Certificate Course in Beekeeping**

**Assessment test 2018-2019**

**Maximum Marks 50**

**Duration 45 minutes**

**Choose the correct answer**

1. For how long does a worker bee live in the summer?
  - (a) For 2 weeks
  - (b) For 2 months
  - (c) For 4 months
  - (d) For 6 months
  
2. Nature of honey is
  - (a) Acidic
  - (b) Alkaline
  - (c) Neutral
  - (d) Turns basic after a few days

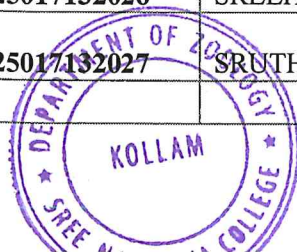
(25x2=50)
  
3. How long does a worker bee live in the summer?
  - (a) about 2 weeks
  - (b) about 2 months
  - (c) about 4 months
  - (d) about 6 months
  
4. What is varroa?
  - (a) a fungus
  - (b) a bacterium
  - (c) an insect
  - (d) an arachnid mite
  
5. Where are the most varroa usually found?
  - (a) in the cells of developing workers
  - (b) in the cells of developing queens
  - (c) in the cells of developing drones
  - (d) on the adult bee
  
6. Where is the surplus honey stored in the bee colony?
  - (a) under the offspring or brood nest
  - (b) above the brood nest
  - (c) in the brood nest
  - (d) in front of the brood nest
  
7. What does the bee use to orientate itself when flying during overcast weather without

(d) 5

15. How does the bee carry the pollen back to its colony?
- (a) In its body
  - (b) On its front legs
  - (c) On its middle legs
  - (d) On its rear legs
16. Which organ prevents the nectar collected, being passed through into the bee's digestive system in order that it can be regurgitated back at the hive?
- (a) Honey bladder
  - (b) Gut
  - (c) Proventriculus valve
  - (d) Gullet
17. What colour is the bee's blood?
- (a) Red
  - (b) White
  - (c) Clear
  - (d) Black
18. What does pollen consist of mainly?
- (a) Carbohydrates
  - (b) Protein
  - (c) Fat
  - (d) None of the three
19. *Apis dorsata* is used to refer to
- (a) Little bee
  - (b) Indian bee
  - (c) European bee
  - (d) Rock bee
20. The honey bee is of greatest use to mankind as:
- (a) It is of medicinal benefits
  - (b) Helps in cross-pollination
  - (c) We get honey from them
  - (d) None of these
21. Honey is
- (a) Nectar of a flower
  - (b) Nectar stored in the honey sac
  - (c) Nectar mixed with saliva and stored in the honey sac
  - (d) Nectar and water sucked by honey bee
22. The bee carries the pollen back to its colony on:

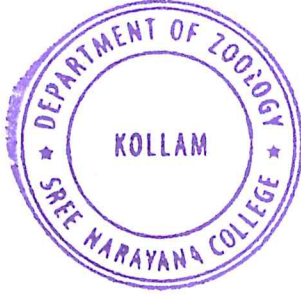
**Sree Narayana College Kollam**  
**Certificate Course in Beekeeping 2018-2019**  
**Student Mark List**


Sl No	Candidate Code	Name of the student	Marks obtained/50
1	25017132002	AHALYA U V	39
2	25017132003	AISWARYA BABULAL	40
3	25017132004	AKHILA VINOD	39
4	25017132005	ANGITH S DEV	45
5	25017132006	ANUSREE A	46
6	25017132007	APSARA CHANDRAN	48
7	25017132008	ARCHANA R NATH	46
8	25017132010	ARYA S	44
9	25017132011	ASHTAMY S LAL	46
10	25017132012	ASWATHY R	40
11	25017132013	ATHIRA SURESH	49
12	25017132017	MEKHA S B	40
13	25017132018	MINNU ASHOK	46
14	25017132019	NOURIN K	47
15	25017132020	PREM KRISHNA M	47
16	25017132021	PRIYA S	45
17	25017132022	RAHUL SAJEEV	40
18	25017132023	SABARI BABU	47
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20	25017132025	SHAHANA B	42
21	25017132026	SREEHARI S	46
22	25017132027	SRUTHI G	35
23			48



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**Certificate Course in Beekeeping 2018-2019**  
**Student Mark List**

	25017132028	UMAKRISHNA	
24	25017132029	ADARSH R KRISHNAN	43
25	25017132030	AGRIMA S KURUP	46
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27	25017132032	AKSHAY T R	41
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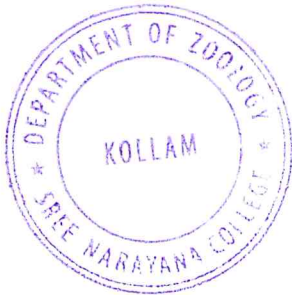


  
**Dr. SOLEKHA B.T**  
Associate Professor & Head  
P.G.& Research Dept.of Zoology  
S.N.College, Kollam-691001

## Department of Zoology

### Report of Beekeeping (2018- 2019)

- Application was invited for the course on 19/9/2018
- 30 Candidates applied for the course
- 30 Of them were selected
- Classes were conducted on offline mode. Classes commenced on 3/10/2019
- Exams were conducted on online mode on 3/11/2019
- Results were published on 4/11/2019
- Certificates were distributed on 14/3/2020



*Sulekha B.T.*

**Dr. SULEKHA B.T**  
Associate Professor & Head  
P.G.& Research Dept.of Zoology  
S.N.College, Kollam-691001

*Surahathharayil*  
Principal  
Sree Narayana College  
Kollam





# SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

## CERTIFICATE COURSE IN BEEKEEPING

This is to certify that Mr./Ms./Mrs. *Rahul Rajeev*.....Department of.....  
*Zoology*.....has successfully completed Certificate Course in Beekeeping  
during the Academic Year.....*2018-2019*.....

*S. S. Sreedhar*  
\_\_\_\_\_  
Course Coordinator

*A. C. N. C.*

\_\_\_\_\_  
Principal



# SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

## CERTIFICATE COURSE IN BEEKEEPING

This is to certify that Mr./Ms./Mrs.....*Sandra S.*.....Department of.....

*Zoology*.....

.....has successfully completed Certificate Course in Beekeeping

during the Academic Year.....*2018-2019*.....

*[Signature]*  
\_\_\_\_\_  
Course Coordinator

*[Signature]*

Principal





# SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

## CERTIFICATE COURSE IN BEEKEEPING

This is to certify that Mr./Ms./Mrs. Sreetha S......Department of.....  
Zoology.....has successfully completed Certificate Course in Beekeeping  
during the Academic Year.....2018-2019.....

Course Coordinator

Principal